NURSING IN EYE DISEASES

J. E. AFFRESON

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NURSING IN EYE DISEASES.

NOTES ON

NURSING IN EYE DISEASES.

BY

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PREFACE.

This book does not pretend to be a complete manual of nursing. It contains merely the application of certain general rules of nursing to the special exigencies of an ophthalmic hospital or practice. Points are emphasized that have occurred to me in every day work.

I have described chiefly the applications and methods I use in my own hospital, and results of my own experience. I have been satisfied with their efficacy, and to have gone to any length into the methods of others would have been to add to the bulk and expense of the book. I hope the information and instructions laid down will be found of service to all who suffer, or have charge of sufferers, from eye disease. The illustrations are chiefly done from photos taken by myself, and blocks kindly lent me by Messrs. Maw & Sons and Mr. Schall, the electrician, and other instrument makers. As far as I can ascertain, no book framed on these lines has been issued to the public. In subsequent editions, if called for, I shall extend both

the matter and illustrations. It has been suggested that I should have prefaced these notes by a short anatomical and physiological description of the organs of vision. This, however, I have deemed unnecessary, as the information can be obtained from almost any elementary work on anatomy.

C. S. JEAFFRESON.

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Newcastle-on-Tyne,
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NOTES ON
NURSING IN EYE DISEASES.

NUMEROUS as are the manuals upon nursing, I think there is still room for the present little work. The nurse, as the assistant of the medical practitioner, must, in a lesser degree, undergo the various changes which have led to the evolution of the surgical or medical specialist.

The ophthalmic nurse, like the ophthalmic practitioner, should, in the first instance, have had a good general training, but beyond this there is a special training which cannot be attained in a general hospital or an ordinary practice.

There is a very prevalent opinion that eye cases do not require much nursing, but that anyone can attend to them. The result is that, as a rule, they get lamentably neglected, and cases of blindness and failure from operation are unnecessarily frequent.

The result of good or bad nursing will always have a powerful and manifest result upon the work of every ophthalmic hospital. However skilful and dexterous an operator may be, his efforts will be fruitless and his ability frustrated, unless the subsequent management of his cases is carefully and intelligently carried out.

I have no hesitation in saying that very many eyes are annually sacrificed in this country through inefficient and careless, or rather, I would say, ignorant nursing. If there is no nurse, the surgeon has to do his own dressings, and then matters have a better chance, but in many cases this cannot be done, and he is obliged to rely on the assistance and co-operation of others. And what I say with regard to nursing equally applies to the inefficient use of remedies by patients themselves, leading to prolonged treatment and disappointment on all sides.

Having had an experience now of more than a quarter of a century of ophthalmic practice in all its branches, I think I may

claim to speak with some authority upon this subject, and I hope the regulations and rules which I shall advise may be found useful to nurses, and not too trivial to be thought worthy of notice by ophthalmic practitioners. That surgeon will make the best specialist who has received the most general and broad training in his profession. He will not take that narrow view which has been the opprobrium of specialism. He will recognize the intimate relationship which exists between every organ, and will comprehend how affection of distant parts may influence the working of that organ to which he is devoting his energies. So also will it be with the nurse, and the better her general training the more efficient will she be.

Nursing, like surgery, is both an art and a science; indeed, they are part and parcel of the same art and science, and the boundary line between the duties of the practitioner and the nurse must, in many cases, be an elastic one. In the absence of the surgeon she is to carry out his instructions, and the more thoroughly she can grasp the scientific

principles which are actuating him, the more thoroughly will she fulfil her part.

Good nurses, that is to say, ladies who combine an intelligent knowledge of their studies with the necessary manipulative skill to carry them out : an even temper, firmness, and discrimination are rare, or, at all events are out-numbered by the mass of inefficient and careless women, who, having found domestic service irksome, overrun the fields of a calling which requires more than ordinary capability.

THE MANAGEMENT OF THE OPERATING THEATRE, INSTRUMENTS, Etc.

In a hospital where no house surgeon assists, the operating theatre should be left to the care of some one person, be she a sister or a nurse, who should be responsible.

The operating theatre should be kept scrupulously clean, and should contain no articles of furniture but what are *absolutely essential for its purpose as an operating*

theatre, viz., operating table, which should be carefully cleaned after operations; basins, nail brushes, antiseptic soap (carbolic, terebene, etc.); large towel rail, capable of holding one dozen towels; cabinet, lined with cloth, for the reception of instruments, which should always be kept in the driest part of the room. All instruments that can conveniently be so arranged, should be hung on rows of pegs inside the cabinet; other instruments should be ranged on the shelves in full view, and with some system of classification. Cutting instruments, such as *cataract knives, iridectomy knives, scalpels*, and all sharp-pointed instruments, should always be in their own closed cases, but on this point I shall say another word or two later on.

A large chest of drawers should contain all the necessary dressings which may be required, and of which a list will be given by-and-bye. The bottom drawers should be larger, and contain spare towels and clean mackintosh covers, several of which may be required on an operating day. Two ordinary

wooden chairs and a small table for instruments will then complete the furniture of the operating theatre.

The key to the management of a whole hospital may often be obtained by an inspection of the operating room.

To enter such a room and find the windows uncleaned, blood stains still on the floor, vomit and blood stains on the pillow, marks of mud from the feet of the patient, a half clean towel or mackintosh spread over the pillow, dirty towels on the rail, soiled linen and promiscuous empty bottles in the corner, the washing sinks choked, and half full of dirty water, no proper soap, no nail brush, argues badly for the success of an operation, and disaster is sure to follow if the programme is continued with dirty sponges, blunt instruments and stale dressings.

Fortunately we rarely see such a combination of insanitary conditions, but the existence of *one of them* may be a drawback, and may be the "little rift within the lute" which may mar the result of what would otherwise have been a successful operation.

I now append a list of the various things which should be kept in the operating room.

STIMULANTS.

Brandy.
Whiskey.
Ether (and subcutaneous Syringe).
Liq. Ammon. Fort.
Spt. Ammon. Arom.
Amyl. Nitrite Capsules.
Faradic Battery.

ANÆSTHETICS.

Chloroform.
Ether, Sp. Gr. 0·720.
(A.C.E. mixture).

LOTIONS.

(These may be kept in various stages of concentration, according to convenience.)
Acid, Boric.
Hydrarg. Perchlor.
Panas's Fluid.
Carbolic Acid.
Boiled Distilled Water.

OINTMENTS.

Iodol.
Iodoform.
Boric.
Cocaine.
Atropine.

DROPS

(prepared with camphorated water).

Cocaine Hydrochlor. 4%, 10%.
Atrop. Sulph. $\frac{1}{8}$%, $\frac{1}{4}$%, $\frac{1}{2}$%, 1%, 2%.
Atrop. and Cocaine.
Atr. $\frac{1}{2}$%, Coc. 4%.
Homatropine Hydrobrom. $\frac{1}{2}$%.
Eserine Sulph. $\frac{1}{2}$%, 1%.
Argent. Nit. 1%, 2%, 3%.

DRESSINGS.

Sponges (small, soft, and thoroughly cleansed).
Bandages of various kinds, as described.
Lint (plain and perchloride).
Absorbent Wool.
Pyoktanin Wool (blue and yellow).
Antiseptic Gauze (blue and yellow).
Ligatures.
Sutures.
Drainage Tube and Syringes of various kinds, both ball and piston.

VARIOUS.

Two Feeding Cups.
Ball Enema (6 oz.).
Two Watchmakers' Glasses.
Tongue Forceps.
Stethoscope.
Battery Solutions.
Absolute Alcohol (for dipping instruments).
Methylated Spirit (for microscopical preparation).
Boiled Distilled Water (fresh).

When operations are about to be performed, the nurse in charge should see to the following points:—In winter the room should be warmed to about 65°. There should be plenty of covering in the shape of blankets on the operating table. The instruments required for the operation should be arranged on a convenient little tray,—the details of what those instruments should be for each operation will be given later on. If more than one operation is to be performed, each should have its instruments separately prepared. It is well to have in duplicate or triplicate the instruments required for the commoner operations, such as cataract strabismus. Eye instruments are so delicate and their edges and points so easily blunted that they require the most delicate manipulation. Cutting or thrusting instruments *should never be*

dipped in any solutions. They are best cleansed by immersion in absolute alcohol just before the operation, and carefully wiped with a very fine, soft leather, or a clean piece of fine tissue paper.

When a patient who has been under chloroform is taken into the ward in a semi-conscious state, a nurse or some intelligent person should be placed beside the bed to watch him, or he may unintentionally do great harm by forcibly removing the dressings. This specially applies to children. It is needless to say that before they are removed patients should be carefully cleansed from all traces of blood. Traces of blood show carelessness and sometimes produce great shock to other patients who may be waiting their turn for operation.

THE OUT-PATIENT ROOM.

A GREAT deal of what I have said concerning the operating room, as regards cleanliness also applies to the out-patient room.

The porter is here responsible; but the matron should always give a look round to

see that his duties are efficiently performed. The floors should be washed at least every other day, the furniture polished, the taps, basins and sinks kept scrupulously clean.

Each morning the batteries should be put out, and placed in the position which the surgeon usually enjoins; also the ophthalmoscopes, perimeters and other instruments in general use. There should be several small basins at hand containing disinfecting fluid, into which the surgeon can dip his fingers after examining a dirty case, and there should be abundance of clean towels at hand. The various solutions should be examined to see that they are clean and in good order. All the apparatus for testing urine should be clean and ready for use.

The out-patient room contains a certain quantity of valuable and scientific appliances used in diagnosis; these should be carefully and intelligently tended, and kept in working order, and after the day's work is over they should be carefully cleaned and put away.

A nurse should always be in attendance in the out-patient room, where her services, if

intelligent, will be numerous and important. Many minor operations are constantly being performed there which require the assistance of a nurse, unless the attendance of students is regular; but her chief duty will be to instruct and personally demonstrate to the out-patients how to intelligently apply the remedies which the surgeon has prescribed.

If the surgeon has to enter into a lengthy explanation upon these points to each patient or parent, the work of the out-patient department would be intolerable; nevertheless *it is most important that it should be done*, if one wishes to obtain the best results with the least loss of time, an object which every surgeon should have in view.

The nurse may individually explain to the patients how drops, lotions, etc., should be employed, herself dressing one case before the others, in order that they may have ocular demonstration of the means and methods in use. For this purpose she must have all appliances at hand, dressings and bandages of all kinds, lotions, droppers, blisters, setons—anything which may be

required. These explanations should be clearly given, and the nurse should see that they are thoroughly understood.

It has often been said of doctors that they are men who pour drugs of which they know nothing into bodies of which they know less, and certainly judging by the speed and carelessness of detail with which in some hospitals the out-patient practice is conducted, the sarcasm is well deserved.

The greater bulk of the persons who attend the out-patient practice of an ophthalmic hospital have very little idea of how to use the remedies placed in their hands. Unless instructed to the contrary, they come daily, their eyes covered with festering shades of blue, green and black cotton ; no evidence of lotion, drops, or medicine ever having been used intelligently, and symptoms which might have been relieved in a few days, go dragging on till permanent mischief results. If there be an out-patient department, at all events see that it is carried out with the strictest efficiency, and that it not only aims at the treatment of the diseases for which

it has been created, but also at the dissemination of useful and practical knowledge concerning those diseases.

WARDS.

The general arrangement and working of the ward of an ophthalmic hospital do not differ from those of any general hospital, but there are certain points which must be attended to. Whereas in a general hospital we aim at getting all the air and light that can be obtained in a crowded city, in an ophthalmic hospital we must be careful to obtain ventilation with a minimum of draught, and we must always so control the appliances that the direct light of the sun should not enter wards where there are a number of persons who cannot tolerate its influence. Nevertheless, it will be advisable occasionally, even with the best forms of artificial ventilation, to thoroughly flush and ventilate the wards. When this is done the more susceptible patients should be thoroughly covered up, and all the windows and doors opened for a short period. Care

should be taken that the doors leading into the lavatories should be always closed; they are better if fitted with automatic springs, and these offices should be constantly visited by the nurse to see that they are clean and orderly, and that the water supply is abundant.

Each patient should have a small bracket beside his bed on which should be kept: (1), A large wide-mouthed bottle (*Fig.* 1), containing the lotion which has been ordered for him; (2,) A smaller bottle (*Fig.* 2) containing his own special eye sponge (if it is a case in which a sponge can safely be used); (3,) A small bathing dish, and (4,) Any medicine which may have been prescribed, unless it contains doses which it is unsafe to trust to patients.

Fig. 1.

Fig. 2.

Patients who have recently undergone *operations should not be allowed to feed themselves unless one eye is available.* I am certain that a great deal of mischief frequently accrues to these cases from a neglect of this precaution. Of course one nurse cannot feed eight or nine patients, but under the

circumstances the assistance of the patients who can see must be called into requisition, and the difficulty may thus be got over.

The three chief causes of mishap after operation are to my mind clear: (1,) Patients' meals; (2,) Going to the water closets when they should use a bed pan; (3,) Wandering about, and taking liberties at night. It is impossible to get the best results after operations, if these matters are not attended to.

ADMISSION OF PATIENTS.

Patients when admitted, unless otherwise ordered, should have a warm bath given them. They should be examined to see that they are free from vermin. Their hair, if necessary, should be cut as short as possible. They should be sent to bed. Unless a special treatment has been ordered, their eyes should be bathed with boracic lotion three or four times a day, and they should have the ordinary diet of the hospital until seen by the surgeon.

In many cases the rest in bed is as essential as in most cases of ordinary disease, and

perhaps more so, especially in the case of children; and to have a number of half-blind persons running about the corridors and passages is detrimental to good order. When patients no longer require treatment in bed, their condition is such that they can usually go home, if they have a fairly comfortable one, and can have ordinary attention.

When in bed a patient's clothes should be removed from him, and on no account should he be allowed *to fill his locker* (which is usually in close apposition with his head) *with dirty wearing apparel.*

Tobacco, pipes, and other noxious articles, should be carefully looked for; money and valuables should be given in special charge to the matron.

Patients on admission should bring at least one change of underclothing; a comb and brush; a piece of soap. If they have it, a dressing gown or jacket, or something which can be used as such; and a pair of slippers. They should be supplied with a lotion bottle, a sponge, a small basin, and a towel; and

Fig. 3.

Fig. 4.

they should be carefully enjoined to keep these articles always to themselves.

EYE BANDAGES.

Bandages are required in eye cases: 1st, for the retention of dressings and the exclusion of light, dust and air; 2nd, to exert pressure, which in some cases may require to be very considerable. The best form of retention bandage is the ordinary knitted cotton bandage, as seen in the illustration (*Fig.* 3.) It should be made of various sizes, to suit differently shaped heads, and care should be taken that the tapes should be long enough to encircle the head and tie on the forehead. In many cases where there is a tendency to slip, or a little extra pressure is required, I have adopted a little device which is very useful. A small piece of elastic about two inches in length, having a little metal ring sewn into each end, is placed at the back of the head, as seen in the illustration (*Fig.* 3); each tape of the bandage, instead of crossing at the back of the head, is brought through the ring on its own side, and then gradually

stretching the elastic the strings are tied on the forehead. In this way great security is provided, and almost any amount of pressure may be exerted upon the eyes.

Another useful form of retention bandage may be made from an ordinary roller bandage by taking a piece about thirty inches long, splitting each end longitudinally for about twenty inches, and stitching the angle of the split so that it does not go any further. The unsplit part of the bandage is applied to the eyes; the top ends tied at the back of the head; the bottom ends under the occiput. If necessary, the top strings may be brought round and tied over the forehead, as in the ordinary bandage, as seen in *Fig.* 4.

Where it is advisable to apply constantly to the eyes cold evaporating lotions, I have devised a bandage, the front of which consists of moderately thick india-rubber sheeting, perforated freely over its whole surface so as to admit of free evaporation and also the renewal of the fluid application from without, the bandage remaining undisturbed (*Fig.* 5).

Fig. 5.

Fig. 6.

Where it is found necessary to apply iced applications, a useful form of bag is that which is seen in the accompanying illustration (*Fig.* 6). The bags are filled with crushed ice or iced water, and their contents changed as often as necessary. Ice, however, in my experience, is badly borne as an eye application; it generally causes great pain, and should never be used except under actual professional supervision.

It is sometimes desirable to put a considerable amount of pressure upon the eye for therapeutical purposes or to insure complete immobility of the lids, and for this purpose a different form of bandage is advisable, which is termed a pressure bandage. It consists of a roller of fine elastic flannel about two-and-a-half inches broad. If both eyes are to be bandaged it should be three yards in length, if one eye, only two.

The bandage is rolled up from each end towards the centre and is applied as seen in the illustration (*Fig.* 7), drawing the ends with the requisite force each time they cross each other. It may be necessary here and

there to make a few turns to ensure smoothness, and when the bandage is completed it may be secured either with tapes sewn to the ends, or safety pins, which are generally preferable.

EYE PADS.

The nurse should always have on hand a sufficient number of eye-pads. These pads are placed on the top of the dressing which is in close apposition to the eye, to keep it in its place, and give firmness by filling up the socket of the eye. They consist of wool enclosed in a bag of gauze, about the size of a five-shilling piece. I employ a blue one of pyoktanin wool for the operated, and a white one for the unoperated eye. On going round the wards you are thus enabled to see at a glance which is the eye that requires to be most carefully manipulated. I have found this simple device of the greatest service to both nurses and surgeons.

The object of a pad is to give a firm and equable pressure on the globe. They should

Fig. 7.

always be carefully teased out and kept free from lumps.

EYE SHADES.

I HAVE before alluded to the unhealthy nature of the eye shades patients generally use, consisting as they do of pieces of cardboard covered with different coloured woollen fabrics, which stain the face, absorb all moisture and discharge, rapidly becoming a hotbed of putrid fermentation. When it is necessary to shade a single eye, a vulcanite shade can be procured from almost any chemist, such as is depicted in *Fig.* 8. They are light, unbreakable, and can be washed as often as necessary. As a rule, however, if one eye requires protection from air and strong light, the other one should also be protected, and for this purpose a pair of what are called globular preserves answers best. They can be obtained of all sizes and colours from any optician at a moderate price. Double vulcanite shades are also made, which are serviceable. Where protection from the light

Fig. 8.

only is required, and there is no danger of moistening with the secretions of the eye, a home-made one of cardboard, covered with black or dark green silk, is easily manufactured, as represented by *Figs.* 9 and 10.

Fig. 9.

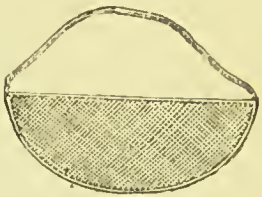

Fig. 10.

BLISTERS.

These should never be applied close to the eye. I have frequently seen in the out-patient room persons who have had blisters applied to the temples, so close to the external canthus, that some of the blister must have entered the eye. This is highly injudicious and dangerous, and I have frequently seen eyes lost through it. There are three seats of election for blisters or mustard leaf applications—behind the ear, in front of the ear, and on the forehead. When counter-irritation is desirable, a small piece of mustard leaf may be placed in one of these positions, and

allowed to remain twenty minutes. The next day another position is chosen, the next another, and on the fourth day the place originally selected will be fit for the reception of a new piece. This form of blistering is very efficacious, and the degree of severity is easily controlled.

SETONS.

Setons are also very efficacious as a counter-irritant in chronic cases of eye disease; but as they involve more or less a surgical procedure, they are not commonly left in the hands of the nurse. A broad fold of skin is seized in the temporal region, where it is covered with "hair"; it is pinched up, and a needle threaded with a good thick piece of silk, or hempen twine, is thrust into the base. When the skin is liberated, it will be found that the opening and the counter-opening of the needle will lie at a considerable distance, and the twine occupying the space between these openings constitutes the irritated surface. The ends of the twine should be tied together, leaving enough space for a little play

on the thread, which should be daily moved up and down, its surface being sometimes lubricated with an irritating ointment. In introducing a seton, be careful to avoid wounding a branch of the temporal artery. On two occasions I have seen a diffused aneurism produced thereby. In one instance much trouble was given, and no small danger, the aneurismal cavity having to be cleaned out, and the wounded vessel sought for, ligatures placed on each side of the artery, and then divided between them.

The danger of any such occurrence is easily avoided by feeling for the branches of the artery, and then avoiding them ; also by not introducing the needle beyond the base of the pinched-up fold.

The deeper cellular structure, in which the vessels ramify, does not allow itself to be pinched up readily.

POULTICES.

Some practitioners have, for some reason, a great aversion to poultices on the eye. I think this aversion must arise in many

instances from purely theoretical considerations, and want of experience in their use. As a warm, moist and soothing application, nothing excels a well made poultice for any part of the body.

Poultice making will be found in any general work on nursing, and I need not enter into that very important detail. Personally, I prefer the poultice to be applied to the eye *without any intervening medium*, such as muslin, lint, or linen. It is this intervening medium which, as a rule, irritates the eye, *not* the poultice. A poultice should not be too thin; it should be homogeneous throughout, not lumpy. In the case of the eye its surface should be painted over with pure olive oil to prevent its adhesion to the lids.

Occasionally extract of belladonna, or conium, or opium must be added to the poultice; it should be thoroughly mixed in while making the poultice.

Poultices are frequently required to remove the indurated crusts of chronic blepharitis; they should then be applied during the night.

In cases of acute iritis, especially of rheumatic character, nothing in my experience so rapidly or effectually removes pain as a warm belladonna poultice.

THE USE OF EYE LOTIONS.

Lotions are prescribed for the eyes for various purposes, and their modes of application will therefore differ.

If a lotion is to be used occasionally, for purposes of cleanliness or as an astringent, a small quantity (about 2 ounces) should be poured into the small bathing vessel, and the eyes and lids should be thoroughly abluted, directing the patient to open the eye occasionally during the process, in order that some may find access to the conjunctival sac.

If the lotion is to be applied constantly, for cooling purposes, or as a sedative, four folds of lint should be soaked in it, then applied to the eyes, and secured by a light muslin bandage, the lotion being renewed every hour.

If it is to be used in the form of a warm dressing, the same quantity of lint should be used, but outside this a piece of oiled silk, or

gutta percha tissue, larger than the lint should be applied, the whole being confined by a knitted bandage.

It frequently happens that a patient is ordered the use of eye drops and lotion; when this is so, it is needless to say that the ablutions must not immediately succeed the use of the drops, otherwise there would be a risk of destroying their efficacy, and an interval of at least half an hour should intervene between their use. After using eye lotions, or drops, the patient should not go immediately into the open air, but should remain quiet and at rest if possible with the eyes closed.

Some persons are in the habit of using lotions in what is called an eye cup, or with an eye douche. This is not advisable unless specially ordered by the surgeon. Lotions used in this way usually effect too free an entrance into the eye, and produce too much reaction.

EYE DROPS AND DROP BOTTLES.

Eye drops are, as a rule, solutions of

dangerous and sometimes highly poisonous drugs, small quantities of which we wish to introduce into the conjunctival sac. They are generally placed in a drop bottle, which is a bottle so constructed that the solution is only allowed to escape drop by drop. There is quite a number of these in the market at the present time, and I give a few illustrations of some of the principal.—(*Figs.* 11, 12, 13, 14).

Fig. 11.

Fig. 12.

Fig. 13.

Fig. 14.

Perhaps one of the most serviceable is what is termed Chalk's (*Fig.* 14) drop bottle, in which the stopper is formed into a pipette, at the top of which is an air cavity, closed at its top portion by a piece of india-rubber tissue, which allows the cavity to be exhausted of air, and consequently filled with fluid at will.

For ordinary hospital work an ordinary small corked bottle can however be used, the requisite amount of fluid being abstracted by a pipette (*Fig.* 15), and inserted into the eye as often as is directed.

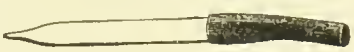

Fig. 15.

The use of eye drops in adults, where there is no irritability of the eye, is usually a simple matter, but in children where there is much susceptibility to light, it may be a very difficult matter.

In the former case, if the patient is sitting or standing, draw down the lower lid and place a drop in the inferior *cul-de-sac* of the conjunctiva. If you use a pipette, take care that its point is not directed straight to the eye, but is kept in a plane, horizontal with the face. Patients sometimes start when drops are inserted into the eye, and I have known the point of a pipette do harm when faultily held. Always then hold the pipette or dropper in such a way that if a patient starts no harm will be done.

In unruly children, or nervous persons, it may not be easy to insert drops in the erect

posture. In these the following method may be adopted :—The child should lie flat on its back on a couch. Whilst the eyes are still closed, a few drops of fluid are dropped into the little cavity which naturally exists between the canthus and the side of the nose. (This can generally be accomplished without the child resenting it.) Now gently separate the lids, and the fluid will immediately find access to the eye without difficulty. Never use much violence to accomplish your object, for if the cornea is ulcerated, or its structure otherwise weakened, the eyeball may be ruptured, and irreparable mischief done. If with patience and perseverance you do not succeed, and the introduction of drops is of great importance, the surgeon will give a whiff of chloroform for the first few times, and subsequently there will be less difficulty about it.

Children and infants, upon whom strong solutions, or moderately strong solutions, of poisonous drugs are being used, should be carefully watched. Some of the fluid may pass through the lachrymal passages into the nose, and hence down the throat into the

stomach, and set up grave symptoms, the cause of which may be entirely overlooked by any one unaccustomed to recognize them. This is especially the case with atropine. If an infant who is too young to speak (and upon whom an atropine solution is being used) becomes restless and feverish, appears thirsty and has dry tongue, be suspicious that it is becoming atropinized. If you continue the use of the drops a red rash will probably appear, and this may be mistaken for scarlet fever. This I have known to occur more than once.

In adults there is less fear of severe constitutional symptoms. They generally notice the dryness of the throat which it produces, and complain of it sufficiently early to prevent a continuance.

Sometimes atropine produces, in certain idiosyncrasies, an erysipelatous inflammation of the lids. It may in some cases extend all over the face, and be difficult to recognize from genuine erysipelas. On discontinuing the drops the malady soon ceases.

CATARACT CASES.

A LARGE proportion of cases admitted into an ophthalmic hospital are cases of senile cataract, and the relative success of these cases is in a great measure a gauge of the salubrity and nursing condition of the hospital.

A patient, having undergone successfully the operative part of the procedure, should have from ninety to ninety-five chances of success in his favour of recovery. If suppuration, or prolapse of the iris, or chronic or acute iritis takes place, nine times out of ten it indicates that there has been a want of skill or attention to small details in the management of the case. It is true that sometimes the blame must be assigned to the restlessness or carelessness of the patient, but more generally the fault rests with the nurse. An injudicious movement, as getting out of bed for purposes of nature, a cold draught from a window or door, a single rough manipulation of the eye in dressing, may ruin the most carefully performed operation, destroying the eye, or perhaps, with less disastrous results,

prolonging the treatment for weeks or months.

A person who is about to undergo an operation for cataract is the better for remaining in bed a day or two previously; he should be watched to see if he suffers from cough. The urine should be saved for examination, the condition of the bowels enquired into, and, if necessary, an aperient administered, and his peculiarities and idiosyncrasies studied and enquired into. All old persons have their peculiarities, and some have positive illnesses which they conceal.

To operate on a cataract case, and find on the second day that the patient cannot retain his urine is to risk failure; yet I have known this happen, a patient trying to conceal a condition which a good nurse would have detected at first.

Peculiarities in habits of eating and drinking are to be enquired into, and in suspicious cases the habit of taking hypnotics.

The more information a nurse can impart to the surgeon, of the patient with whom she lives in daily contact, the more valuable and the greater assistance she will be to him.

Most information can be got by *careful observation*, without asking too many questions, which old people often resent from anyone but the doctor.

Patients should have their eyes carefully bathed four or five times on the day previous to the operation with Sol. Hyd. Perchlor. 1-10,000. The eye should be tested to see if there is any conjunctivitis, or muco-purulent accumulation in the lachrymal sac, *and they should be asked if their eyes are gummed up in the morning*; if so, on no account should an operation be performed until this condition be rectified. On the morning of the operation the face, neck, and hands should be thoroughly washed with soap and water, and the eyes carefully bathed once on rising; and once immediately before the operation, with Perchloride lotion 1 in 5,000 (previous to the first instillation of cocaine), which should be one minute before coming into the theatre. Men are presumed to have had their hair cut, and beards trimmed or shaved. Women must have their hair dressed in a suitable and convenient form,

Fig. 16.

so that it may be stowed out of the way, and remain unarranged for several days. The way of doing this is as follows, and may be seen in the illustration (*Fig.* 16).

DRESSING THE HAIR.

The hair after being well combed and brushed should be parted down the back and divided into two portions; each portion should then be tightly plaited and tied with a ribbon. The separate plaits should be rolled up and fastened with pins into a convenient roll in the hollow of the neck, as seen in *Fig.* 16.

Nothing is more disgraceful than to see, either in a man or woman, a dishevelled head of hair, grimy and filthy at the roots, unwashed perhaps from time immemorial, and in the case of females to have, during the operation and subsequent dressings, these greasy appendages floating about over the face, entangling the instruments, slipping the bandages, and giving occasion for frequent pulling about, which is attended with risk.

It is now rare to employ chloroform for an operation for senile cataract. In the

event of the surgeon testifying his intention of so doing, the patient should be duly prepared. A fairly nutritious meal should be given about *three hours before* the operation, and in very debilitated persons, or persons who have been habituated to considerable quantities of alcoholic stimulants, one table-spoonful of brandy or whiskey with a little soda water, a few minutes before the operation. In the event of cocaine being employed, a 10% solution should be freely instilled sixty seconds before entering the operating theatre, and repeated once immediately before lying down. This solution is better prepared immediately before the operation. Some surgeons prefer that the pupil should be in a medium state of dilatation before commencing the operation for cataract. If cocaine is instilled five minutes before the operation, the amount of dilatation which is advisable will occur, but mydriasis should not be induced without the special orders of the surgeon.

For the special list of instruments required at a cataract operation, *vide* pages 79—90.

They should all be carefully arranged on a tray, and held close to the surgeon's hand, so that he can readily put it upon what he wants without changing his position, or more than a slight movement of the hand.

Cocaine, atropine, eserine, solutions, dressings, should all be within his easy grasp; and small dossils of antiseptic wool about the size of a nut, in a dish the size of a saucer full of the antiseptic solution he prefers.

The speculum once introduced, the operation should be completed without interruption; nothing can appear more slovenly or careless than having to wait for what is wanted after the introduction of the speculum, and the seeking of instruments after the operation has commenced may be attended with disastrous results.

In private practice the surgeon or his assistant should attend to these particulars; and in a hospital where there is a house-surgeon he would be responsible for them. Under other circumstances it devolves on the sister-in-charge of the operating room.

After the operation, the patient should be removed to bed. If he has to walk, the head should be kept well thrown back. No removal of clothing should then be carried out. The patient should be enjoined to lie quietly on his back, and encouraged to rest, and if possible to sleep. The head should be moderately raised. If there is much restlessness and the patient finds one position irksome, he may lie on the opposite side to that on which the operation has been performed.

The first period of twenty-four hours after a cataract operation is one of the greatest importance; during that time, in healthy and vigorous patients, the cornea may completely heal, the anterior chamber re-establish itself, and the patient be placed in a condition of comparative certainty as to its result. This should be explained to him as an incentive to keep quiet. During this period no food should be given which requires masticating. Milk, beef tea, tapioca, or other farinaceous puddings are to be allowed, but the patients must be fed, and on no account allowed to

raise the dressings, or help to feed themselves.

It need scarcely be urged that they are not to get out of bed *for any purpose*. The urinal or bottle should be given them, and the bed-pan, if necessary; but a little judicious management will prevent any evacuation for forty-eight hours, or longer, if necessary.

As a rule cataract patients are left forty-eight hours before the first dressings are changed, or the eye examined; but different surgeons have different views upon this matter.

With regard also to the amount of light to be admitted into the ward, there are great differences of opinion. Some enjoin absolute and complete darkness; others allow the ordinary light of the ward. Personally, I think a medium course best, and I allow an amount of light which is sufficient for all ordinary purposes of seeing, which is less irksome to other patients who may have to be occupants of the same ward.

The first dressing is an important era in a cataract operation, and most surgeons

prefer doing it themselves, for nine times out of ten a fair prognosis may be made of the probable result of the case. If, on removing the dressings, the lids appear like that of the sound eye, of proper colour, of normal contour, neither swollen nor depressed, and there is neither pain nor any kind of discharge, the prognosis is good, and nothing further will be required than a little gentle cleansing with some weak antiseptic solution. *The eye should not be examined*, but clean dressings should replace the old ones.

Pain after a cataract operation usually means that something is wrong, and if continuous and severe the surgeon should be consulted, but all subjective sensations depend as much upon the personal qualities of a patient, as upon the objective causes which give rise to them. There must of necessity be some disagreeable sensations in the eye after an operation, and some will call it nothing; others will put it down as intolerable, and we shall usually be able to estimate the importance of a complaint from

a study of the character of the person who makes it.

Progress of the Case.—After the first dressing the eye will require regular dressing at intervals of twenty-four hours, under even the most favourable circumstances: in the event of there being any inflammatory action, more frequently, perhaps twice a day or oftener; but the surgeon will give instructions upon this point.

I wish to give now a few instructions as to how a cataract case should be dressed. What I said about operations equally applies here, and will apply more or less to all other dressings. Have what you want at hand. Antiseptic lotion, warm distilled water, suitable vessels, dressings, bandages, drops of all kinds, and a small candle lamp. Darken the room, clear the curtains from the head of the bed, enjoin the patient not to move during the process.

All these seem minute instructions, but they are very necessary. It frequently happens to an inexperienced nurse that a patient raises the head at a critical moment,

and brings the wounded eye into contact with the nurse's hands, a basin, or other instrument.

Untie the bandage *gently*, and remove it completely (do not let it slip back over the patient's head into the bed), leaving the under dressings unmoved. Next remove those from the sound eye, gently pulling them from above downwards; if they are gummed to the eye, be careful, as you may, *a fortiori*, expect them in the operated eye to be more so. Finally, remove those from the operated eye most carefully, and gently, avoiding all pain, and preventing sudden starts. To see a nurse shoot her cuffs, turn her elbows out, and proceed to remove the dressings of a cataract case as if she were about to perform a feat of legerdemain before a large audience, is a painful sight, and one which is conducive to bad results. The patient gives a start, the dressing clings to the lid; a spasm of the lid, and the sudden movement of the head liberates the dressing; the patient complains of a sudden pain, and there is a flow of hot tears. Now open the

eye, and you will probably find a prolapse of the iris, the presence of which, except to all who know, is of course unaccountable. Having removed the dressings, proceed to cleanse the eye ; this does not mean a few dabbings with a wet rag. The eye should be thoroughly and carefully cleansed, and for this purpose a small, fine, soft piece of sponge, is to my mind the most suitable object. (I shall in a special chapter speak again on this point.) Not only does the eye require bathing, but all the surrounding parts, and this cannot be done with cotton wool nearly as well.

Avoid when bathing the eye pressing upon the upper lid ; underneath it is the wound, and this is sure to be tender. A good plan with women, and others who are deft with their fingers, is to entrust the sponge with suitable caution into their own hands. They are less likely to hurt themselves than you are to hurt them, and will frequently give satisfactorily a few final touches to the washing better than the nurse or surgeon.

Having finished the washing, give the patient a moment's rest. Let him look round

in the darkness, if a few days have elapsed since the operation. The nurse should not, however, test the power of vision. This is beyond her province, but she will generally be able to form some opinion from the remarks patients make; but she must not take all that she hears for granted. Many patients have pessimistic views upon all subjects in life, their own eye-sight forming no exception. It is not unfrequent for them to say they can see nothing; they wish they had never had it done, when at the same time the results are perfectly favourable, and the progress of the case quite *en règle*. It is useless to contradict these persons; if you see everything is natural, be satisfied, and in a few days they will think they see the light, and will probably end by reading and writing.

When are the dressings to be discontinued? Well, no uniform answer can be given on this point; much must depend upon the progress of the case, something upon the individual.

If all goes on under the most favourable circumstances, at the end of a week the

patient may have the eye uncovered in the sombre light of the ward (and wearing dark spectacles) for half-an-hour two or three times a day, preferably at meal times, so that he may help to feed himself. By degrees this time of uncovering is extended, and at the end of fourteen days a patient may sometimes remain uncovered during the greater part of the day. Personally, I have considerable objection to the patient going about with the good eye uncovered, and the bad one covered. With perhaps certain exceptions, I may say it is a bad plan generally. The two eyes are not separated organs in the human being ; if light is admitted to one eye its influence is felt on both ; if one eye accommodates for near things, so does the other ; any movement of a single globe is accompanied by an associated movement of the other. The use of one eye practically means the use of both, the one tied up being only hampered and irritated by the movement of its fellow. For convenience, and under certain circumstances, one eye may be used alone for a few moments, but the principal

part of the light must be excluded by tinted glasses. Generally speaking, both eyes should be either opened or closed; if the original eye is not in a fit condition to bear the light when subdued by tinted glasses, its fellow had better not receive it.

Now as regards complications which may occur during a case of cataract operation, there are few which decidedly affect the nursing.

Suppuration will occasionally occur under the most strict antiseptic precautions. There are some persons who are so predisposed to suppuration, that do what you will, and take what care you may, their eyes will suppurate. I have seen a few such cases in my experience.

In cases where the first eye has been lost by suppuration, I have occasionally performed the operation upon the second eye with the rigidity of a physiological experiment, yet have been disappointed to find the second eye melt away like the first. Personally, I am inclined to doubt the possibility of excluding germs during any operation; we may,

however, modify the soil on which they fall.

There are some soils which offer such inducements to their growth, that, short of processes which would in ophthalmic practice be fatal to the structure involved, we cannot counteract their influence. Persons suffering from diabetes are certainly more liable to suppuration than ordinary cases. This is the chief danger in operating on them.

Personally, I am not a great believer in the antiseptic system, which, with all its complicated processes, is gradually being consigned to the limbo of things of the past. It means little more than scrupulous cleanliness; but as the greater includes the less, I like to encourage it in practice. With reference to the eye, it is scarcely possible to carry it out with absolute rigidity. The conjunctival sac communicates with the lachrymal passages, these again with the nasal and pharyngeal cavities, and to antisepticize these would be, to my mind, about as easy as to drain the ocean. Still, attention should be given to

these passages and cavities, and if in an unhealthy state we should attempt to improve them.

Depression is a condition from which all cataract cases suffer more or less, together with many other forms of eye diseases. The anxiety which persons feel who know that the happiness and usefulness of their future lives depend upon the success of the result, will naturally give rise to this, and the irksomeness of the treatment, which requires that all light shall be cut off for a time, often produces such an amount of despondency that occasionally the mind gives way. I have seen acute mania on two separate occasions develop after a cataract operation. In one, the eye was lost through the violence of the patient; in the other, in which the symptoms were less severe, a good recovery followed, the wound having in a great measure healed before the symptoms supervened. When such symptoms seem likely to occur, it is better to remove all bandages, and content ourselves with keeping the patient in a room artificially illumin-

ated, trusting to subcutaneous injections of morphia, and hypnotics to ensure prolonged sleep.

A cheerful and sympathetic nurse may do much to ward off this depression by constantly reassuring the patients, reading to them, talking to them, and using every endeavour to divert their minds from their own afflictions. These extreme effects of depression are much less likely to occur in a hospital than in private cases, because there being usually many cases gathered in one ward, there are usually some who show an example of patience, forbearance and cheerfulness under adverse circumstances which reacts beneficially on the others.

It is well, when the circumstances of the hospital allow it, to keep all the cases of cataract in one ward; under conditions in which this is not possible, and they must be treated in a general ward, avoid as much as possible having too many suppurating cases in the same room. Be careful always to dress the cataract cases *before the others are touched*, and between each case to dip

the hands and fingers into some disinfectant solution.

The rules for dressing cataract cases will vary with different practitioners. Personally, I prefer to dress operations the first few times myself; after that they will be dressed by the nurse, and the earlier they are done the better. After the night's rest the eyes are usually hot, dry, and somewhat uncomfortable, and it adds much to the relief of patients if their eyes are attended to soon after they wake. These remarks specially apply to cases of operation on the globe; the other cases can usually wait till a little later period, when other essential work has been got through.

Some persons have such irritable condition of the skin that they cannot bear the heat of the knitted bandage, which is certainly sometimes trying in the height of summer. In these, protection may be assisted by plaster dressings. The form I usually employ is well seen in *Fig.* 17. The plaisters are cut out upon the models made for each eye, and in the circular aperture the ordinary dressings

Fig. 17.

are placed, or sometimes a piece of darkly coloured gelatine tissue, the eye being absolutely bare underneath this covering, and open to inspection through the transparent material.

The nurse accompanying the surgeon round the ward should carry her dressing basket well provided with everything that is essential.

A small paraffin or candle lamp is needed for more minute examination of cases in subdued light; test types should be at hand to test the progress of visual acuity.

If anything special has occurred between the visits of the surgeon, the nurse should make a note of it upon the patient's bed-card, so that the surgeon's attention may be drawn to it in the event of her unavoidable absence.

IRIDECTOMY.

What I have said concerning the nursing of cataract cases applies equally to cases of iridectomy. The same care should be taken in looking after them, though fortunately the

treatment is less prolonged, and in most cases the issues involved are not so important.

STRABISMUS.

Ordinary cases of strabismus, especially in grown up persons, and those who can be operated upon without chloroform, are usually treated in the out-patient department. They require very little dressing; but the patient should be allowed the *immediate use of both eyes*, wearing the spectacles which have been ordered from the moment in which they recover from chloroform. This is of great importance, as the eyes then assume the best position they are susceptible of acquiring. If the patients, from any reason, are unable to bear this, tie up *both eyes;* but on no account allow a patient who has been operated on for Squint to tie up one eye, unless under the expressed wish of the operator.

MANAGEMENT OF CASES OF PHLYCTENULAR KERATITIS.

There is a class of cases which, while apparently possessing no special pathological

characteristics, show many clinical ones, and to which I wish to devote a few words. They are cases of keratitis with great photophobia, and general and local irritability. I may sketch one of these cases, which are, as a rule, easily recognized.

They usually occur in children of from one to seven years of age, two or three being the most common time of life.

The child is usually brought to the outpatient room all huddled up in a mass. Its only effort is devoted to burying its head in its hands or clothes, to exclude any particle of light, or even air, from contact with its eyes or lids. It cries, kicks or struggles violently, if any effort is made to examine the eyes. Usually it has been in this condition for some time before being brought. The features are swollen and flattened, and congested with lying perpetually on its face, its nose running with mucus and muco-pus. There are fissures about the external angles of the eyes. Frequently an eczematous eruption about the face and the hand, matting the hair together. Altogether, in some cases, they

present a hideous spectacle of dirt, disease, suffering and neglect. The mothers generally speak of them as being blind; but in point of fact, when chloroform is administered (and it is useless to attempt examining them without), locally there is not found much the matter. On more than one occasion I have been unable to detect anything beyond a slight conjunctivitis; but usually there are a few phlyctenulæ on the cornea. It is a very common thing to find one centrally situated.

Now these cases, if neglected, may go on for an indefinite length of time; suppuration may occur in the phlyctenulæ, or in the ulcers they leave behind, and the eye be lost; but when properly treated they are very amenable to satisfactory results.

I look upon this condition as a reflex neurosis, due to irritation of the mucous membrane and skin generally; but their etiology need not be discussed in a nursing manual.

The treatment consists in absolute cleanliness, careful dietary, and locally the use of sedatives. The child is not infrequently a

strong, active one, and may generally be treated with a fair amount of activity. The hair should be cut off short, the child washed from top to toe with warm soap and water night and morning; and then sponged with cold water in summer, and tepid in winter.

A brisk purge of grey powder and rhubarb should be administered at the commencement of the treatment, and a little relaxation should be kept up by the administration of a gentle laxative. If young, the child should be restricted to a milk diet; if over three, light puddings and a little broth, but on no account should salt provisions or herrings or spiced and highly seasoned food be given. It is well to keep children in darkness; it prevents them attempting to bury and cover their features, and restores sometimes their confidence when they find they can open their eyes in a darkened room.

In these cases, if much or little discharge runs from the nasal passages, great attention should equally be paid to them as to the eyes. They should be carefully syringed out with a tepid boracic lotion, and a small

pledget of lint dipped in the same lotion be inserted into the orifice of the nares.

It is marvellous what a change for the better occurs after a few days' regular and persistent treatment, and though the first few dressings may require the use of chloroform, in a few days this may be dispensed with; and although some struggling may occur, they may be sufficiently secured by rolling them in a sheet and holding them in the position I shall describe for dressing cases of ophthalmia neonatorum.

Chloroform, however, may frequently be used with advantage; its administration acts as a powerful general and local sedative, and in this way expedites the cure. It rarely takes more than a few whiffs to produce the desired result, and need not be pushed to full anæsthesia.

A very useful apparatus for the examination of children suffering from photophobia, for persons who have undergone operations, and for all those in whom the light is badly tolerated, is a kind of movable dome which is made of wire and covered with black cloth.

It is suspended from the ceiling by a pulley, and its height can be regulated at will from the inside by the operator. The diameter is sufficient to admit of its covering, when lowered, both the surgeon and the patient. All light is cut off except what comes from the ground, and under this cover it is sufficiently dark to make an examination with oblique illumination or even with the ophthalmoscope. I always make use of this artificial dark chamber in the out-patient room, and have found it of such great service that I can confidently recommend it to all specialists.

INFECTIOUS CASES.

We may class all cases of purulent conjunctivitis as being of an infectious nature, although necessarily some are much more so than others. The chief types are—Active gonorrhœal ophthalmia, ophthalmia neonatorum, or the purulent conjunctivitis of infants, or severe catarrhal ophthalmia. Cases of idiopathic, membranous conjunctivitis, and true diphtheritic ophthalmia are rare in

this country, and need not be touched upon here.

All these cases should be scrupulously excluded from the general wards, and cases in the wards which develop these tendencies should be immediately removed; a special nurse should be deputed to look after them, and she should be cautioned as regards her own personal safety.

The patients should always be confined to bed. The rules concerning the separate use of bowls and dressings should be most carefully and scrupulously enjoined. The chief points to be attended to are to keep the eyes and lids free from purulent discharge, and this often requires much patient and assiduous attention. The eyes should on no account be bandaged, but a fold of lint of several thicknesses kept constantly applied to the eye (or eyes, if both are affected), soaked in the lotion prescribed by the surgeon.

The nurse will remove this dressing, and clear away any pus as soon as it forms with a small dossil of lint soaked in the same lotion. This may have to be done in the

acute stages as often as every half hour, or hour; in others, every two hours may suffice. The lotions may be directed to be used either hot or cold, according to the feelings of the patient, and in some cases iced applications will be ordered. In changing the dressings the nurse must be careful to see the patient does not get wetted, and I have devised a special form of mackintosh which may advantageously be used to obviate this.

As a rule the patient will be in bed while these dressings are made; but in the case of infants in arms, and very young children, the position I am about to describe, is most desirable. Two nurses, or the mother and nurse sit opposite each other. All but the head of the child is wrapped in a sheet; the mother now gently lowers the child, face upwards, until its head comes between the knees of the nurse. The nurse then gently grasps the head of the child between her knees, and controls all movement until the dressing is completed. She should see that before she commences she has all she requires

on a chair or small table near her right hand. It is not only necessary to see that the pus is removed from the external parts of the lids, but from the inside also, and a little gentle friction will generally bring a good deal from the latter.

Sometimes a small ball syringe may be used for washing out the cul-de-sac. It had better not, however, be done without the orders of the surgeon. All manipulations in these cases must be done with extreme caution and delicacy, as were ulceration of the cornea to ensue the globe might easily be ruptured, and a prolapse of the iris occur; indeed I have seen this more than once.

Are these dressings to be continued during the night? This will depend upon circumstances. With young infants they may be done half as frequently as during the day; in adults the severity of the disease will be our guide. It must be borne in mind that most patients suffer from great nervous and physical prostration, and if there has been little sleep for a few days, and opiates are being administered, the patient should be

Fig. 18.

left undisturbed, and should certainly not be wakened.

In case one eye alone should have been infected, and the other should be free from any evidence of disease, it is most important that protection should be afforded the sound eye from any possibility of the entrance of matter. Carefully closing it with aseptic wool and bandage will effect this purpose very well, if efficiently performed, being careful not to uncover the sound eye till the affected one is thoroughly closed, and using for its ablutions perfectly fresh materials. Some prefer what is called Bullers's Shield. This consists of a watch glass carefully adjusted to the sound eye, and fixed by plaster in such a manner that practically it is air-tight, and cannot admit infection. (*Figs.* 17, 18). Personally, I have found the first precaution quite as safe as the last. Many persons do not like, and are irritated by, sticking plaster on the face, and the watch glass being always dimmed by perspiration, they get little more in the advantage of seeing than perception of light, or large

objects. *Fig.* 18 gives an illustration of the method of fixing a watch glass efficaciously. The plasters, such as I have described for cataract dressings, are made to embrace the edge of a watch glass firmly, and this is subsequently applied and made to adhere, as seen in the illustrations.

MASSAGE.

The benefits to be derived from massage as a therapeutic agent in certain cases of diseases of the eye are incontestable, and should be recognized and acted on by all who practise ophthalmology as a speciality. The cases in which I have found it of special service are those obscure cases of asthenopia and retinal hyperæsthesia which occur frequently in females at the period of the climacteric, and occasionally in males who suffer from neurasthenia. But in subinflammatory conditions it is also of use. I have found it specially serviceable in some cases of chronic blepharitis, attended with thickening of the lids, and in cases of chronic conjunctivitis and irido-cyclitis, where there is no pain or

tenderness. It is of great benefit, combined with the use of electricity, in a large number of cases in which the movements of the eye are impaired either by paralysis or paresis, and also in all cases of functional amblyopia, nor should we forget to eulogize the great power it possesses when properly used of increasing the effects of other remedies. The advantage to be derived from the use of absorbent ointments upon deposits of new tissue in the cornea is much enhanced by the use of massage.

I have seen marvellous results in the way of absorption of effusions and nebulæ, by the persevering use of massage, combined with certain ointments and other local applications. There is, perhaps, no organ of the body which lends itself so readily to the effects of well regulated massage as the eye. Situated in the orbit, which is well lined with a cushion of fat to act as a gentle counter-pressure to any force we may employ, the exact amount of pressure can be well regulated, and we can exert a mechanical control over its vascular and lymphatic

circulation with greater effect than is possible in any other organ. It is, however, a power for good or evil, and it should only be adopted as a form of treatment in cases that are well adapted for it. In cases where the cornea is thinned by ulceration, only the most gentle effleurage should be employed. So also in cases of high degree of myopia, and other cases where we may anticipate that detachment will take place.

In some cases a considerable amount of pressure is well borne, and is decidedly beneficial. I have seen cases of chronic glaucoma, epi-scleritis, rheumatic and gouty irido-cyclitis, toxic amblyopia, and primary and secondary atrophy much improved by a prolonged course of massage, combined with electricity.

To practise massage the patient is better lying upon a couch, almost horizontal. We will in my description suppose massage is being performed for a corneal nebula. The eyes, having been well washed, a small piece of yellow oxide of mercury ointment is carefully introduced into the eye with a

little special spud. The operator, standing behind the patient, places her fingers together in such a way that the bulbs form a sort of cushion which rest upon the upper lid. At first a gentle up and down movement is practised, making the patient look up and down, and to the right and left, having of course the eyes closed. In this way every part of the globe is successively brought under the influence of the movement. After a few moments the up and down movement is changed for a lateral one, then again for a circular one, and finally pressure is made with the tip of one finger in a direction radiating from the centre of the cornea. The combined movements should occupy from five to six minutes. Where electricity is employed with massage, I prefer using it at a separate part of the day; where, however, this is inconvenient, a period of about half-an-hour should in my opinion be allowed to elapse. When massage is used in cases of reflex neuralgia, and all the queer sensations and derangements to be met with in neurotic subjects, who are the victims of

some ocular disorder, the area of the massage movements should be more extensive, and should be practised over the head, neck, face and spine. The proper correcting glasses should be worn at all times, and general hygienic rules carefully attended to. Where there is extensive derangement or functional disturbance of the pelvic viscera, general massage will be found of great service when efficiently performed by a trained masseur or masseuse.

ELECTRICITY.

It is impossible in a small manual of this kind to enter very deeply into the question of the electrical treatment of eye diseases, or upon the various and extremely numerous forms of batteries which are used for this purpose. When the services of a trained electrician are not available, nurses must carry out the treatment according to the instructions of the surgeon, but a few general rules should be laid down.

There are two kinds of currents in general use; one is called the continuous or galvanic

current, the other the interrupted or Faradic current. Each has a separate instrument to produce them, although in some cases the instruments are combined in one, both for convenience and portability.

I shall here describe the apparatus we employ at the hospital with which I am connected, but I may add that much less expensive and smaller machines, as far as the eye is concerned, are equally efficacious. In a hospital where cases present themselves in which general treatment may have to be combined with a more limited local treatment, all appliances should be at hand. Simultaneously with a paralysis of the ocular muscles we may have to treat a more general form of paralysis. We may wish to ascertain the existence or not of the reactions of degeneration, and for this, good and efficient apparatus is necessary. The continuous current battery may be required for the electrolytic treatment of tumours, nævi, etc., and this can only be efficiently carried out with a large number of cell elements.

The battery most suitable for the admini-

stration of the Faradic current is that known as the Dubois-Reymond Sledge Coil, and is here figured (*Fig.* 19), and it will be quite unnecessary to go into minute details of its construction. The electricity is generated by two dry Leclanché cells. The strength of the

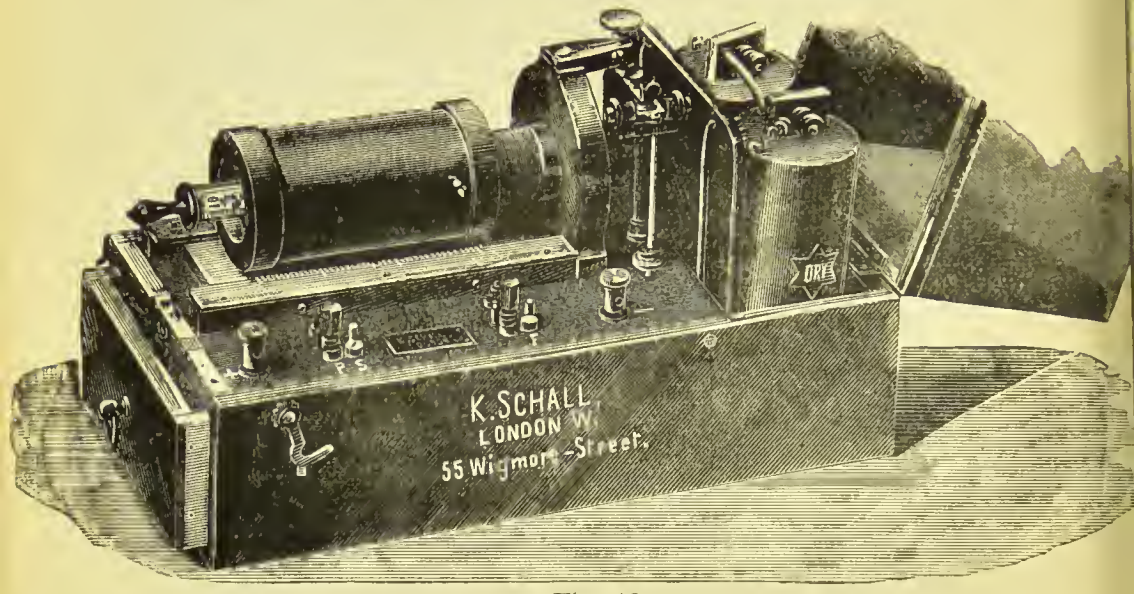

Fig. 19.

primary current is regulated by a movable and graduated core which enables the operator to control efficiently the strength of the current which is being administered, and to register it for subsequent applications. The secondary coil slips over the primary one, running on sledge bars which are graduated

for purposes of registration. All these details can easily be followed from the drawing.

To administer the Faradic current.—Attach the connecting wires to the two poles, select the two electrodes to be used,* attach them to the distant ends of the wires, moisten them well with salt water, if the primary current is to be used, adjust the core of the coil to the registered depth you have employed before, and found bearable; if the secondary current, slide the outer coil to the number indicated on the sledge which has been found bearable. Now press the lever which starts the battery. The vibrating sound of the interrupter will indicate if the battery is working. *Having previously tested the strength upon your own closed eyes,* proceed to apply it to the patient. Apply the positive pole to some indifferent part (I usually select

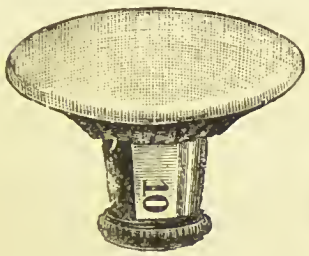

Fig. 20.

Fig. 21.

* The electrode represented in *Fig.* 20 I generally use for the positive pole, *Fig.* 21 for the negative pole.

the nape of the neck, about the fifth or sixth cervical spinous process), and promenade the negative pole over the closed eye. An application of from five to six minutes with occasional momentary interruptions may be made twice a day, or once a day, as ordered.

Batteries should be kept scrupulously clean, and the electrodes should be carefully wiped and polished each time they are finished with. They should be kept in a dry place, and best under lock and key. The core generally has to be withdrawn almost to its full extent for local eye work. It is quite worth any one's while who is constantly using batteries to take the trouble to learn something of their construction, which information can be obtained from many of the elementary works on electricity.

In cases of paralysis of the muscles of the globe of the eye, special electrodes have been made for the direct application of the current to the weakened muscle directly through the conjunctiva. I have used these, but found the application badly borne, attended with pain,

and not more efficacious than the more external application.

A useful way of employing the Faradic current, especially with timid persons, is to pass it through one's own body, making use of one's fingers as an electrode. The patient grasps the electrode connected with the positive pole, the operator the one connected with the negative pole in his *left* hand, and with the fingers of his *right* hand well moistened with salt water makes contact with whatever part of the patient's body he wishes to act upon.

The battery employed for galvanization, or the continuous current, is that which is figured on page 72 (*Fig.* 22), and is what is known as a Schall's Portable Battery. It is made up of thirty-two Leclanché cells, and is provided with a galvanometer for measuring the current, and a double crank collector which enables the operator to use any of the cells of which the battery is composed at will, thus preventing an unequal incidence of work upon the first few cells of the battery.

To apply the Continuous current.—Attach the cords as indicated for the Interrupted current. Select, moisten and attach the

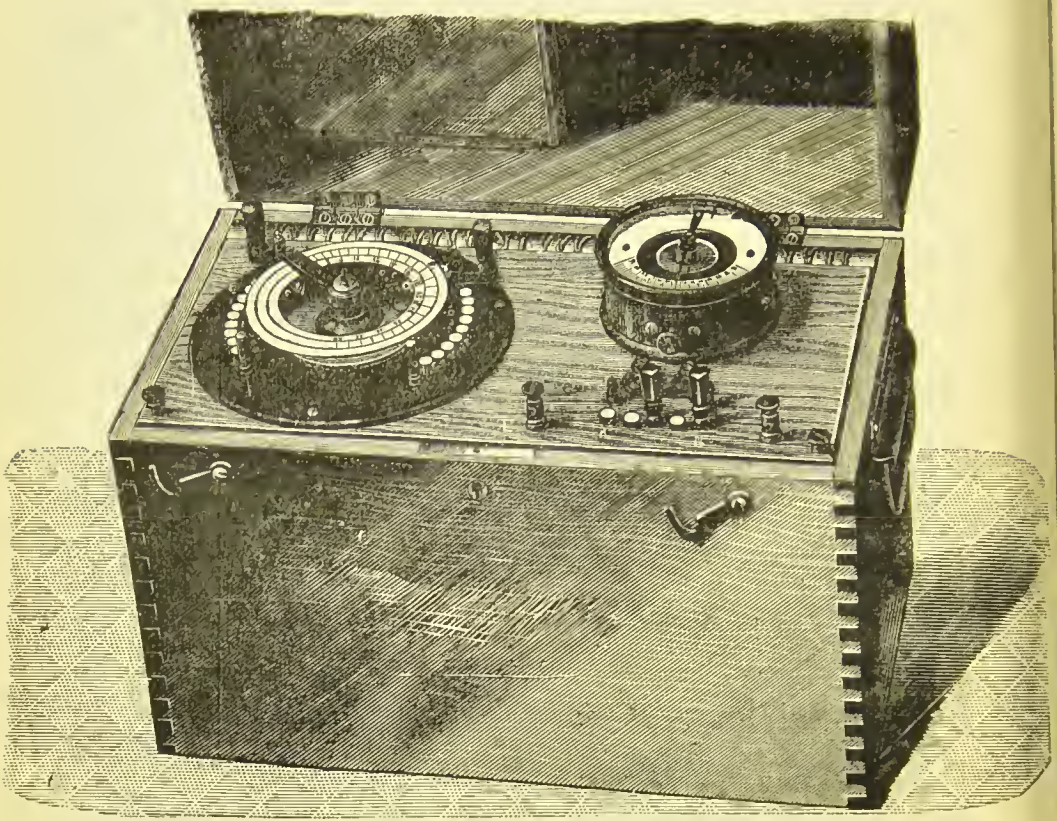

FIG. 22.

electrodes, apply the positive pole to the forehead or neck, and the negative pole to the eye closed. Your patient will probably for a moment feel nothing. Now interrupt the current by means of the inter-

rupter in the electrode handle, and he will probably himself exclaim that he sees a flash of blue light. Keep up the application for about six minutes, constantly using the interrupter and occasionally reversing the direction of the current by pushing the current reversor from A to B.

Although most persons feel almost equally the Faradic current, I find there are great differences amongst individuals with reference to the Continuous current. I usually find that four or five cells are sufficient; exceptionally, seven or eight may be used. If much giddiness is created, it will be better to discontinue the application.

Where subcutaneous injections of strychnia are being employed in connection with electricity, I usually give them immediately before the use of the battery; I find it enhances its effects.

Sometimes the effects of the Continuous current upon cases of amblyopia are for the moment quite remarkable, if vision is tested immediately after the use of the battery. I generally, however, advise patients to remain

quiet, and not attempt for a time to exert their vision after its application.

The employment of electricity about the head requires care, and the following points should be attended to.

Always apply the electrodes to your own head before you apply them to the patient's. This rule, which should be rigidly carried out, will make you careful to look and see that your instrument is carefully adjusted.

Always see that the electrodes are well moistened with salt water.

Never continue the battery if a patient complains of giddiness. Some persons are exceedingly susceptible, especially to the continuous current in the eyes, and will feel strongly a current which is to others quite imperceptible. So, again, with the interrupted current; some persons find it extremely painful, or disagreeable to say the least.

Batteries are always liable to get out of order if not carefully attended to, or are roughly used. If a battery will not work, a little care will frequently find out the cause, without sending it at once to the

makers. First, we must consider if the cell elements are exhausted. This is only likely if the battery has been working daily for some months. Second, we must carefully examine the cords which connect the electrodes with the battery terminals. We have here a very common source of failure, owing to the wire becoming worn out or snapping close to the attachment to the electrode handle or battery terminal. If we can find no hitch in these parts, the battery may be opened and a worn out or leaky cell may be discovered, or a loose binding-screw. The investigation of a defective battery, like the investigation of a diseased human being, requires some knowledge of its anatomy, and some patience and perseverance. But your labours are amply rewarded if you find out and rectify the error without professional assistance.

PRIVATE NURSING.

ALTHOUGH the foregoing notes are written specially with a view to hospital work, anyone who has duly considered them will have

no difficulty in applying them in a private case. The nurse having but one patient to attend to, her duties should be most thoroughly and efficiently carried out. If the issues entrusted to the care of the ophthalmic practitioner do not often involve the question of life or death, the question of sight or blindness is to many of almost equal importance, and all conscientious persons must feel acute remorse if they are conscious that anything they have done or left undone has conduced in a given case to an unfavourable result.

I can best point out some of the duties of a private nurse by an illustrative case. Supposing a nurse is engaged to nurse a case of senile cataract. It will be advisable for her to go to her patient a day or two before the operation, make her acquaintance, ascertain her peculiarities and idiosyncrasies, both physical and mental, as far as she is able, to speak hopefully of the coming operation, and generally to win her patient's respect and confidence. She should specially ascertain her habits as regards eating, drinking, sleep-

ing, and whether she has any little ailments which few old persons are without, such as cold feet, flatulence, weakness of the bladder, cough, skin irritation or eruptions. She should make a note of anything she thinks is unusual or of importance in connection with the patient and her surroundings, and report it to the surgeon. On the day previous to the operation she should see to the room that is to be used, that it is comfortable, airy, well ventilated, and contains all that will be required. A small hospital bed with or without curtains is usually the most handy, and it should be so arranged that it is accessible from both sides if possible ; if not, the side corresponding to the eye to be operated upon should be most accessible. It is always preferable in private cases, where the means of carrying a person after an operation are limited, to operate upon the same bed upon which the patient is to remain. This cannot well be done in the case of many of the old-fashioned cumbrous beds in general use. In these circumstances a good table covered with a mattress and placed in a good light from a

window is all that will be required. All preparations for the operation will be made without fuss and without attracting the patient's notice more than is necessary, and they should be completed an hour or two at least before the surgeon arrives, so that there may be no hesitation and no delay. Nothing is more irritating to a surgeon than to arrive at a house where he is about to perform an operation and find that all the preliminaries have not been thought out and attended to. If a nurse is uncertain upon any point connected with the arrangements, she should make enquiries from the surgeon if possible on the previous day. When all is satisfactorily arranged the chance of a successful issue is far greater, for the surgeon enters the house, performs his task calmly, quietly, without having to ask a question, and leaves perhaps without having spoken a word beyond what is necessary to give a few special instructions. The pleasure of working where the machinery is properly oiled is much enhanced. A good nurse is to the surgeon what the engineer is to a steam engine. She enables him to work

smoothly and rapidly, and materially helps to minimise the wear and tear of mind and body. What is so annoying as to enter a house where you are going to operate, and find your patient fully dressed, walking about, and be told: "Ah, so you've come! We did not expect you quite so early." This, followed by: "Will you look at this room—will it do? How about the bed, must there be curtains?" After an hour, by dint of great exertions, all is got ready, but by this time indignation has reached boiling pitch with the surgeon; agitation is at its climax with the patient; confusion at its maximum with the nurse. Disaster comes in at the door, and success flies out at the window.

I need not here recapitulate the details of nursing a cataract case, as naturally they will be the same in private as in a public hospital.

INSTRUMENTS.

To facilitate the arrangement of Instruments for certain operations, I have here prepared a list which may be found convenient. The number after the instrument

refers to the illustration of it; where there is no illustration given, the number refers to the instrument in Messrs. Maw's Catalogue, 1893.

OPERATIONS ABOUT LIDS.

TARSAL TUMOURS.

Scalpel (*Fig.* 8).
Spud or Scoop (*Fig.* 64).
Forceps (*Fig.* 55).
Scissors (*Figs*, 28, 31).
Caustic Point.

NÆVUS.

Cauteries—
Galvano, Pacquelin's.
Harelip Pins.
Strong Nitric Acid.
Subcutaneous Syringe.

ENTROPION AND ECTROPION.

Scalpels (*Fig.* 8).
Scissors (*Figs.* 27, 28, 31).
Snellen's Forceps (*Figs.* 68, 69, 70).
Dissecting Forceps (*Fig.* 55).
Spatula (*Fig.* 65).
Lid Forceps (*Figs.* 69, 70).
Needle Holders (*Fig.* 61).
Needles on each end of Silk.

OPERATIONS ON LACHRYMAL PASSAGES.

Canaliculus Knives (*Figs*, 21, 23).
Stilling's Knife (*Fig.* 26).
Directors (*Fig.* 53).
Lachrymal Syringe (*Fig.* 48).
Probes (various) (*Figs.* 52, 53).
Scalpel (*Fig.* 8).

DESTRUCTION OF SAC.

Scalpels (*Fig.* 8).
Scissors (*Figs.* 27, 29).
Cautery & Pacquelin's (*Fig.* 38).
Strong Nitric Acid.
Glass Rod.

OPERATIONS ON CORNEA AND IRIS.

CATARACT (SENILE).

Specula (*Figs.* 44, 45, 46, 47).
Panas's Syringe.
Fixation Forceps (*Figs.* 49, 50).
Cataract Knives (*Figs.* 3, 5, 6, 7).
Cystotome (*Fig.* 60).
Iris Forceps (*Figs.* 56, 66, 67).
Scissors (*Figs.* 19, 28, 62).
Vectis (*Figs.* 20, 64).
Hook Lens (*Fig.* 10).

CATARACT (TRAUMATIC CAPSULAR, AND CONGENITAL).

Suction Curette (*Fig.* 59).

Capsular Forceps (*Figs.* 36, 37).

Iridectomy Knives (*Figs.* 14, 15, 16, 17).

Needles (*Figs.* 8*a*, 9, 35).

Spring Scissors (*Fig.* 63).

Broad Needles, straight and bent (*Figs.* 12, 13. 22, 24, 33).

IRIDECTOMY.

Specula (*Figs.* 44, 45, 46, 47).

Fixation Forceps (*Figs.* 49, 50, 58).

Iridectomy Knives (*Figs.* 14, 15, 16, 17).

Scissors (*Figs.* 19, 28, 62).

OPERATIONS ON GLOBE.

ENUCLEATION.

Specula (*Figs.* 44, 45, 46, 47).

Fixation Forceps (two pairs) (*Figs.* 49, 50).

One Probe Pointed Blunt (*Fig.* 29).

One Nerve Scissors.

Strabismus Hook (*Fig.* 18).

STRABISMUS.

Specula (*Figs.* 45, 46, 47).

Fixation Forceps (*Figs.* 49, 50).

Scissors (*Figs.* 27, 29, 31).

Strabismus Hooks (*Fig.* 18).

Needle Holders, &c. (*Figs.* 51, 61).

Protected Needles.

EVISCERATION.

The same, with Small Scalpel and Cataract Knife (*Figs.* 5, 7).

ADVANCEMENT.

The same as Strabismus, with

De Wecker's Advancement Forceps.

TUMOURS OF ORBIT.

Tumours of the orbit are so protean in their forms that it is not possible to enumerate all

the instruments that may be required at all operations. The surgeon will issue special instructions.

DISTENDED SINUS.

Retractors.
Specula.
Scalpels.
Dissecting Forceps.
Artery Forceps.
Dressing Forceps.
Bone Forceps.
Raspatory.
Small Trephine.
Probes.
Long Nasal Probe.
Drainage Tube.

SOLID TUMOURS.

Instruments as above with
Chisels.
Mallet.
Small Saws.
Elevator.
Gouge.
Drill.
Instruments for plugging Post Nares.

SOLUTIONS.

ALTHOUGH, in a Hospital, the ordinary solutions in daily use in the wards will be supplied from the Dispensary, a knowledge of how to prepare a few useful applications is serviceable in those cases where a nurse is in the country, at a distance from chemists' assistance.

SOLUTIONS IN CONSTANT USE.

BOILED DISTILLED WATER.

BOIL the distilled water for about ten minutes in a clean white enamelled pan, filtering it

through a funnel containing glass wool, into a throughly cleansed glass-stoppered bottle. Should not be kept above a few days.

BORACIC LOTION.

Take half-an-ounce (ʒiv) of Boracic Acid, put it into a clean quart bottle, and pour over it one quart of boiled distilled water. Let it cool, and when cold, add to it one ounce of compound tincture of Lavender.

PERCHLORIDE OF MERCURY LOTION (STRONG).

Take two grains of Hyd. Perchlor., and dissolve in three pints (60 ozs.) of distilled water; colour with a few drops of Pyoktanin solution. This will be about 1 in 2000. Diluted with equal parts of water, 1 in 4000; diluted with 4 parts of water, 1 in 8000.

PANAS'S SOLUTION.

Take one grain of Biniodide of Mercury, rub it up in a mortar with half an ounce of proof spirit, and when dissolved, add to it a quart of distilled water.

BATTERY FLUID.

For charging Grenet's cells for use with batteries of Electro-Magnet, Electro-Cautery and Light.

Water	10 ozs.
Bichromate of Potass ...	10 ozs.
Acid Sulph. Pur.	2½ ozs.
Bi-Sulphate of Mercury ...	1 oz.

Dissolve the Potass Bichromate in the water, then add the Sulphuric Acid, finally the Bi-Sulphate of Mercury. The fluid, if only used for a short period, should never be returned into stock bottle.

Fig. 1.

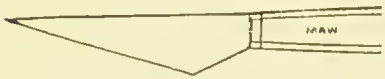

Fig. 2.

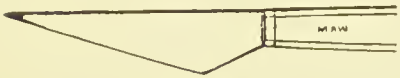

Fig. 3.

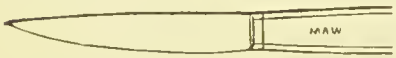

Fig. 4.

Fig. 5.

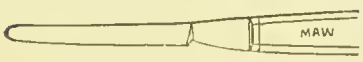

Fig. 6.

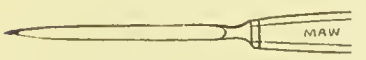

Fig. 7.

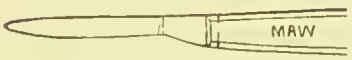

Fig. 8.

Fig. 8*a*.

Fig. 9.

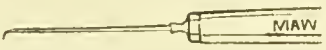

Fig. 10.

Fig. 11.

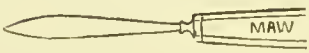

Fig. 12.

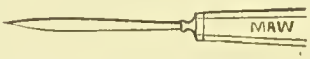

Fig. 13.

Fig. 14.

Fig. 15.

Fig. 16.

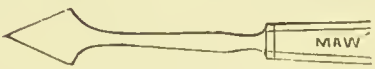

Fig. 17.

Fig. 18.

Fig. 27.

Fig. 19.

Fig. 28.

Fig. 20.

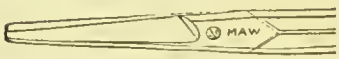

Fig. 29.

Fig. 21.

Fig. 30.

Fig. 22.

Fig. 31.

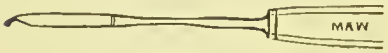

Fig. 23.

Fig. 32.

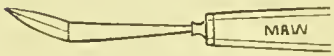

Fig. 24.

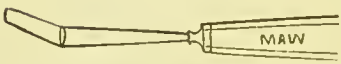

Fig. 33.

Fig. 25.

Fig. 34.

Fig. 26.

Fig. 35.

Fig. 36.

Fig. 40.

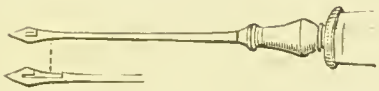

Fig. 37.

Fig. 41.

Fig. 38.

Fig. 42.

Fig. 39.

Fig. 43.

Fig. 44.

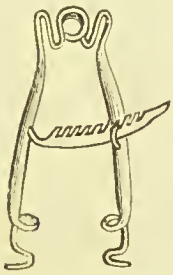

Fig. 45.

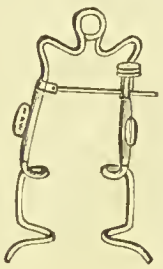

Fig. 46.

Fig. 47.

Fig. 48.

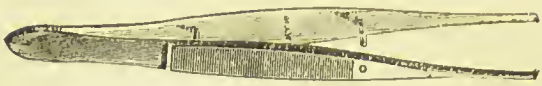

Fig. 49.

Fig. 50.

Fig. 51.

Fig. 52.

Fig. 53.

Fig. 54.

Fig. 55.

Fig. 56.

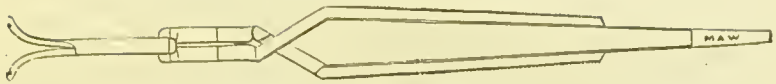

Fig. 57.

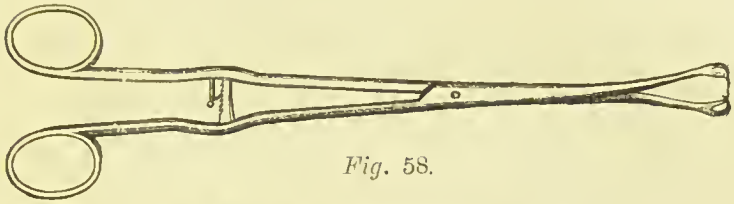

Fig. 58.

Fig. 59.

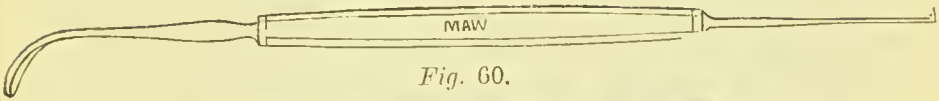

Fig. 60.

Fig. 61.

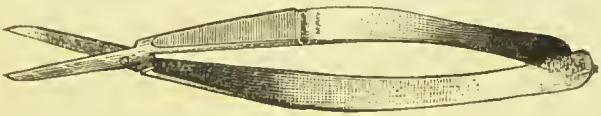

Fig. 62.

Fig. 63.

Fig. 64.

Fig. 65.

Fig. 66.

Fig. 67.

Fig. 68.

Fig. 69.

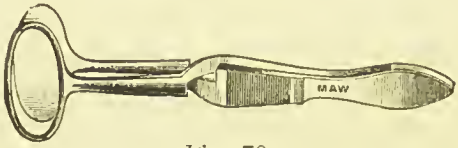

Fig. 70.

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